DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-016812
Date Inspected: 14-Sep-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 630
OSM Departure Time: 1500
Location: Job Site

CWI Name: See below

Inspected CWI report:	☑ Yes	☐ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☐ Yes	☑ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS OBG

Summary of Items Observed:

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified as 6E/7E-F & E and the following observations were made:

6E/7E-F

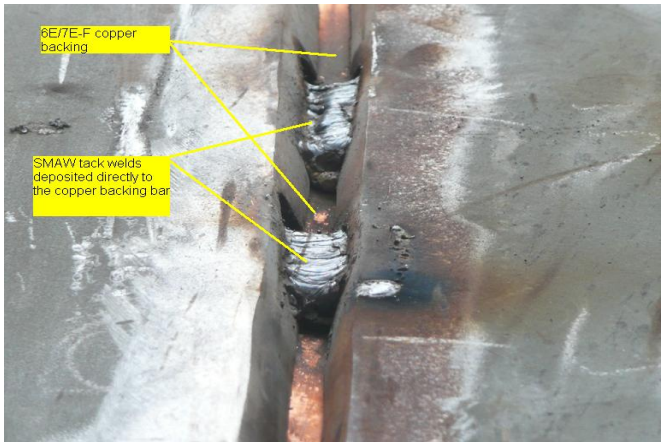
The QA Inspector randomly observed the ABF welder identified as Xiao Jian Wan begin setting up to perform the shielded metal arc welding (SMAW) root/fill pass. The QA Inspector randomly performed a visual inspection of the fit up and dimensional requirements of the weld joint. The QA Inspector noted the fit up including the bevel angle, planar alignment and root opening appeared to be in general compliance with the contract requirements. The QA Inspector did observe the backing material utilized for the weld joint was a copper bar. The QA Inspector asked the QC Inspector Tom Pasqualone what Welding Procedure Specification (WPS) was being utilized to perform the welding. The QC Inspector informed the QA Inspector the WPS designation was identified as ABF-WPS-D1.5-1040-B. The QA Inspector reviewed the above identified WPS and noted the WPS identified as ABF-WPS-D1.5-1040-B requires A709 Grade 50 steel backing and not a copper bar. The QA Inspector randomly observed the ABF welder begin the SMAW root pass by welding subsequent tack welds intermittently through out the weld joint. The QA Inspector noted the tack welds consisted of a root pass, and subsequent weld layers were welded in addition. The QA Inspector noted the ABF welder appeared to be utilizing a weave type welding method. The QA Inspector randomly observed and noted the while the ABF welder was utilizing the weave type method of welding, it did appear the welding arc was in direct contact with the copper bar during the SMAW process. The QA Inspector donned a welding hood and randomly observed the welding arc which did appear to be in direct contact with the copper backing. The QA Inspector randomly observed the SMAW parameters and they

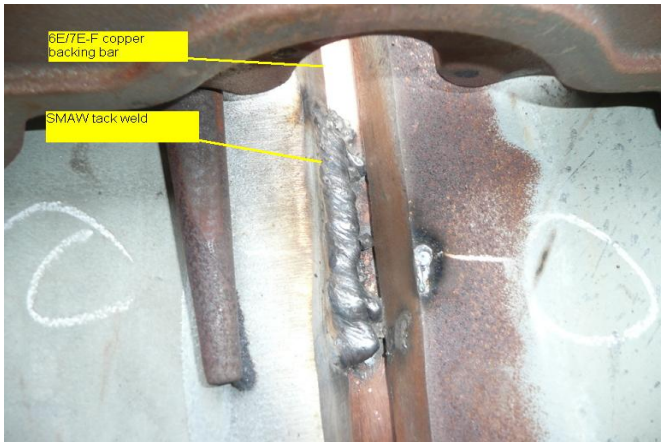
were 145 Amps while utilizing 5/32” E7018 low hydrogen electrodes. The QA Inspector randomly observed the ABF welder did continue the SMAW for the remainder of the QA Inspectors shift. The QA Inspector noted and incident report was written and submitted for the above identified non conforming issue.

6E/7E-E1/E2

The QA Inspector randomly observed the ABF welder identified as Rick Clayborn begin fitting up the above identified weld joint. The QA Inspector randomly observed the ABF welder install and weld the square nuts and fit up gear as well as the steel backing bar. The QA Inspector randomly observed the Smith Emery (SE) QC Inspector Tony Sherwood was on site monitoring the in process fit up. The QA Inspector noted several areas of the weld joint which appeared to have unacceptable planar misalignment. The QA Inspector noted all of the areas except for one area of unacceptable planar misalignment were correct by additional fitting tasks. The QA Inspector noted the top 90mm of the weld joint, where the vertical (F) plate intersects with the diagonal (E) plate. The QC Inspector informed the QA Inspector, when the weld joint is ready for production welding in the area described above, additional fitting tasks will need to be performed.

The QA Inspector spent the remainder of the shift updating and tracking the production welding, in process or completed by the contractor. In addition the QA Inspector performed an overall update of the Caltrans Quality Assurance non destructive testing verification.





Summary of Conversations:

The QA Inspector informed the QC Inspector Tom Pasqualone the WPS being utilized for the welding at 6E/7E-F was not qualified to use copper backing in the weld joint. The QC Inspector informed the QA Inspector he was aware the copper backing was not qualified in the WPS identified as ABF-WPS-D1.5-1040B. The QA Inspector informed the QC Inspector an incident report would be written and submitted for the above identified non conforming item in regards to the copper backing bar.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916)-813-3677, who represents the Office of Structural Materials for your project.

WELDING INSPECTION REPORT

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Inspected By:	Bettencourt,Rick	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer